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HINTS ON COUGHS,
THEIR CAUSES & TREATMENT

BY

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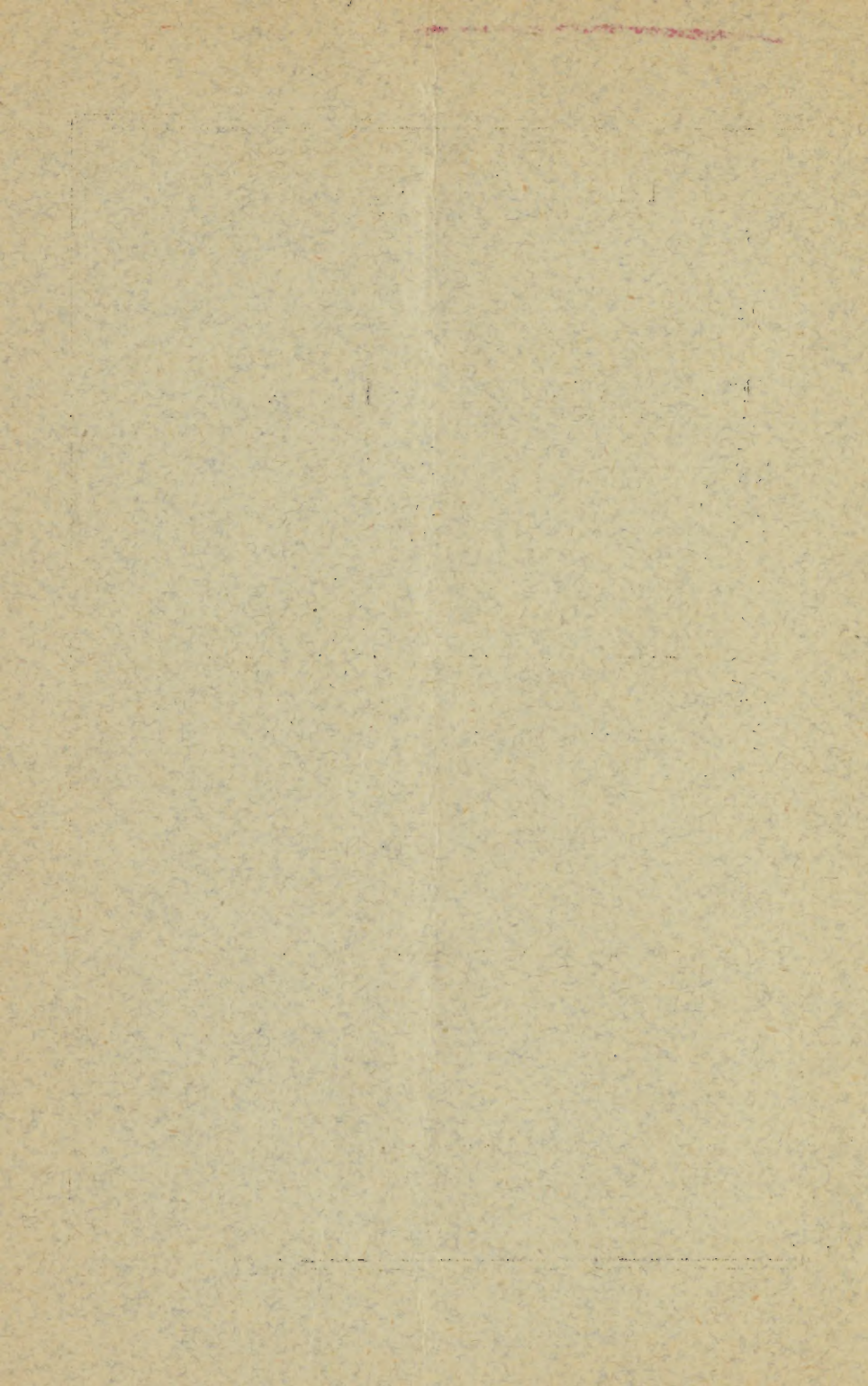
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HINTS ON COUGHS : THEIR CAUSES AND TREATMENT.

BY WALTER F. CHAPPELL, M.D., M.R.C.S.

No symptom of a disease befogs the young practitioner more than the varieties of coughs which he is called upon to treat. No symptom receives more random guesses or more shot-gun prescriptions. It is not my intention to wade through the ancient history and literature of coughs, but simply to give some practical hints on the varieties, causes, and treatment of coughs as they occur in every-day practice.

A cough, as we all know, is a symptom of some irritation, mechanical or sympathetic, affecting the respiratory tract or organs. It is Nature's effort to remove the cause of irritation.

When thinking over the best way to present this subject, I found it difficult to make a classification which would separate and at the same time include the important forms of coughs. A division based on their relative frequency seemed to make the subject fairly distinct.

First Class.—No doubt in this country the morning cough to remove the accumulation of mucus, caused by nasal obstruction, post-nasal catarrh, the different forms of pharyngitis, general enlargement of vessels and glandular tissue of the pharynx, base of tongue, and upper respiratory passages, is by far the most frequent.

These conditions sometimes occur singly, but often all are present in the one patient and constitute what is called "common catarrh." They cause increased secretion, which is disposed of almost as soon as it is formed during the day, but at night it accumulates in the post-nasal space, lower part of pharynx, and superior laryngeal region. These patients, on rising in the morning, have a feeling of fullness, sometimes dryness, in the throat. It causes them little annoyance at first, but after moving about and taking breakfast their trouble begins. The act of mastication and swallowing increases the blood supply to these regions and calls into activity the normal function of the glands. The resulting secretion liquefies

the mucus which has accumulated during the night and causes it, as the patient will tell you, to rise in his throat. At first there is little difficulty in getting the mucus into the mouth and expectorating it. In half an hour or so, however, the hypersecretion seems exhausted, but some thick, sticky mucus adheres to the walls of the throat. The effort to get rid of this produces a violent hawking and gagging and a succession of short coughs before it can be dislodged.

In mild cases, after the throat has been cleared in the morning, there is little annoyance for the rest of the day. In more severe cases, however, the efforts to clear the throat and post-nasal space are most distressing. They come on after every meal, after exercise, or when the atmosphere is moist, or the patient excited. The feeling that something is slipping down behind the soft palate causes a deep inspiration through the nose, followed at once by a violent cough which usually brings relief; if not, there is a succession of coughs and gagging, and relief is obtained by vomiting.

Men frequently smoke, especially a cigarette, on rising or after breakfast, as they find that by this means they are able to relieve themselves more easily and rapidly of the accumulation. Of course the smoking produces a hyperstimulation of the glands and consequent secretion, and gives temporary relief; it, however, leaves a dry and irritable feeling in the throat. To fully appreciate these symptoms one has only to be a passenger in any of our public conveyances when people are going to business in the morning. If not a sufferer himself, he will at least soon realize what a sympathetic nervous system is. This form of cough, while less dangerous than any other, is most troublesome and annoying to the patient and his friends and difficult to treat.

Second Class.—The cough resulting from what we call a common cold may be classed as next in frequency. The symptoms in these cases usually begin with acute rhinitis or influenza and travel down to the trachea and bronchial tubes a day or so later. Some people have their symptoms of an approaching cold in the chest, and the throat and nose are attacked subsequently, while in others the cold begins on the chest, and does not invade the upper respiratory passages at all. In those which begin as an influenza the nasal symptoms and gen-

eral febrile condition last from two or three days, when some irritation is noticed in the laryngeal region and a slight cough appears ; this increases daily until about the fourth or fifth day, when the nasal symptoms will be relieved and the patient tells you that the cold is now entirely on the chest.

The cough is often severe and comes on in paroxysms, especially when speaking, eating, taking exercise, or when changing from one temperature to another, or during any excitement. There is more or less of an aching or tight feeling under the sternum, and if the person is a frequent sufferer from colds, or, as he will tell you, "catches cold easily," you find he often complains of a distinct sore spot near the ensiform cartilage. Somebody has suggested that this is caused by a semi-inflamed condition of the mucous membrane at the bifurcation of the trachea. This place, of course, receives the direct current and pressure of the air at every inspiration. The expectoration is very scanty at first and consists of white mucus. A few days later the mucus becomes more profuse, and its character will depend a good deal on the history and age of the patient and the severity of the attack.

In young people, if it is only a mild attack, the mucus is rarely profuse and only slightly yellow. In older persons, or when there is a history of repeated attacks and some chronic bronchitis or a syphilitic history, the mucus is thick and yellow in appearance and abundant. The respiration is little interfered with in young people, but in older persons, where the mucous membrane is thickened, there is a good deal of shortness of breath whenever they take cold.

Third Class.—We next consider the different forms of coughs encountered in the various stages of phthisis. In the early stages of the disease we are consulted for a short, dry, hacking cough, which the patient can not refer to any special cause or place ; he simply has a desire to cough. It is not violent, and attention is only called to it by its persistence. It is caused, in the opinion of many physicians, by a deposit of tubercular material around the terminal branches of the pneumogastric nerves. Its course is insidious and often so short that the physician is not consulted until the disease has advanced to another stage, when the cough becomes loose and more bronchial in character. This change in the cough is due

to a catarrhal condition of the mucous membrane of the bronchial tubes and terminal bronchioles, the result of localized bronchitis. The expectoration at first is white mucus tinged with yellow; a little later it becomes thick, yellow, and tenacious, and requires a good deal of coughing to get it up. This is most troublesome during the night and in the morning—in fact, during the day there is often little coughing. The increased cough at night is probably due to the change in position of the body, as then the mucus is made to occupy different parts of the bronchial tract, and until the mucous membrane becomes accustomed to this change it resents the intrusion.

In a still later stage of this disease, when softening is going on and a portion of the lung separating, the cough is violent and continuous; also, when cavities have been formed, they fill with mucus during the night; in the morning there is violent coughing till the cavity is emptied. The coughs in the later stages of phthisis are the result of such large accumulations of mucous and necrosed tissue that they are kept up night and day and wear the patient out. The mouth and throat are frequently tender and covered with a watery mucus at this stage of the disease, which adds to the frequency and severity of the cough.

Fourth Class.—Many persons complain of a cough which leaves them during the warm weather, but returns on the approach of winter. This “winter cough” may be due to several conditions—viz., bronchial catarrh or thickening of the bronchial mucous membrane, chronic bronchitis, and quiescent or arrested phthisis.

There is usually a history of previous severe colds, which for several winters had been most intractable to treatment; then the patient has noticed that the cough returned with the cold weather, probably without his having any special symptoms of having taken cold.

The disease is sometimes hereditary, occurring in children whose parents have been sufferers from winter cough for years. These persons are usually pale and anæmic. All their mucous membranes are flabby and prone to catarrhal inflammations, and their recuperative powers are weak.

Women, especially blondes, suffer more frequently than men.

The initial symptoms develop in early life, when the child takes cold in the chest on the slightest change of temperature. The symptoms are slight and catarrhal in character at first, but become more marked and persistent as age advances. The mucous membrane of the lower part of the trachea and large bronchial tubes is the chief seat of the trouble. This becomes thick and tumid, and the vessels permanently enlarged. As age advances, especially in neglected cases, the tubes become dilated, and in some cases small, pouch-shaped depressions are found in the walls of the bronchial tubes and trachea. When the cough comes on, the patient has a feeling of slight oppression or wheezing over the sternal region, some aching between the shoulders, and a sore or tender feeling through the chest, mostly on the right side.

This sore feeling is often complained of during the warm weather if there is a sudden change of temperature. Hot flashes of the face and upper extremities are common, also cold perspirations. Excitement, exercise, and sudden changes from one temperature to another aggravate the symptoms, and in some produce an asthmatical attack.

The cough in the early cases is not severe or paroxysmal, and would be called a slight bronchial cough. It is worse at night and during the early morning hours. The mucus expectorated is white and frothy. As age advances the cough becomes violent and paroxysmal in character, and troublesome during the day as well as at night. The mucus is abundant, thick, yellow and tenacious.

If this condition lasts for years, as it sometimes does, and nothing arrests its progress, the right heart becomes enlarged, and the general venous system sluggish. The thickened condition of the bronchial mucous membrane extends to the lung tissue and produces contraction and hardening, until both lungs are in a fibroid state, resembling, if not identical with, that of true fibroid phthisis.

This, of course, is an extreme picture, and would probably only occur in a few predisposed or neglected cases. The great majority, however, end in chronic bronchitis, which continues for years, and death may result from some other disease.

Fifth Class; Nervous Coughs.—This class is probably

more common here than in any other country. It causes a great deal of trouble on account of its persistency and from its nature being frequently overlooked. Its nature is sometimes only discovered after many cough mixtures and other remedies have been employed for its relief. Scarcely an organ in the body has escaped the accusation of originating a nervous cough, and many of them have certainly been guilty.

In one class of cases it is the general nervous system which is at fault, while in others some particular organ originates the trouble. These coughs are characterized by short, dry hacks, which the patient takes in rapid succession. They are paroxysmal, and sometimes violent and barking in sound. During excitement they become almost continuous, and the sufferer complains of a fear of strangulation. If this continues for any time the laryngeal mucous membrane becomes red and the muscles of the neck and chest have a sore, tired feeling. Sometimes there is a dry, burning sensation through the throat. There is always a history of nervous troubles of various kinds extending over some period. Some cases entirely recover, while in others the cough extends through life and is spoken of as a habit. There is also the hemming cough of puberty, so well described recently by Sir Andrew Clark.

It is sometimes difficult to trace the reflex form of nervous cough to its origin, and every organ may have to be examined before determining this. I think, however, when we decide that we have a reflex cough to deal with, there are usually symptoms which point to its probable origin.

Sixth Class.—We are all familiar with the following history: A short, plethoric person calls and tells you that he has a bad cough, which attacks him in paroxysms, that he can not bring up any phlegm, has a full, stuffy feeling over the trachea, a little shortness of breath, and is husky at times. Appetite not good. Tongue very red or large, white, and flabby, and marked with the indentations of the teeth. Bowels probably constipated, although they may be loose. Urine high-colored, scanty and thick. Morning nausea common. He has probably had the cough some time and taken a good many things for it without benefit. On examining this patient's throat, you find the mucous membrane of the fauces and walls of the pharynx mostly of a deep-red color, but in

places it is dark blue, relaxed, and bathed in a watery mucus.

This condition extends to the laryngeal region and as far down the trachea as we can see. The congestion of these regions is produced by over-indulgence in food and alcoholic beverages. In people with a rheumatic or gouty tendency it takes very little to produce this result, while in others it comes on after a spree or steady drinking extending over a long period.

Treatment.—When consulted about a cough, the first thing to decide is whether it originates in the respiratory tract or is due to some nervous disturbance.

If the former is at fault, the next decision is whether the cough is a useful or useless one, or excessive from the amount of good we might expect from it. If it is evidently doing good service, our object should be to assist it to complete its work as soon as possible. In useless coughs we consider whether they are so excessive as to require a sedative, and then direct our efforts to remove the cause. It is easy to see how important it is that all these points should be made out before we write our prescription or decide on a course of treatment. If we reply to this cry for relief by the indiscriminate use of sedatives, we may carry our patient into a dangerous position from which we cannot extricate him. It is a wise course never to give opiates until you have found the cause of the cough and are satisfied that it is so excessive that it is wearing the patient out or is endangering the lung tissue. The latter is most likely to happen in the very young and in advanced life.

Some of the milder forms of sedatives may be employed with less caution, but we should always make the selection with care, as certain sedatives are especially suited for a certain class of patients. In every cough resulting from acute disease an aperient will be of service with a reduction in the quantity of nitrogenous food and a liberal supply of fluids, especially of alkaline waters.

Another general direction is the matter of dress. Probably no country in the world is subject to greater and more sudden changes than this ; especially is this true of this vicinity. It would seem that in so changeable a climate the people would, as a national custom, wear next their bodies a material which would be a poor heat conductor. Some do protect themselves

with woolen garments, but the vast majority wear underclothing of a material which does not retain the surface heat of the body as well as wool. Thick overcoats and other thick external garments are supposed to keep in the warmth, but this is a mistaken idea, as the warmth needs to be next the skin.

As a class, no people wear thinner boots than Americans. Women especially indulge in thin boots or slippers at times when only the thickest should be worn. Their hosiery, too, is often of the thinnest material.

It is extremely important that in persons subject to catarrhal affections of the respiratory tract special attention be given to their clothing; otherwise no amount of medication will prevent taking cold.

The treatment of the cough described under the first class would, of course, differ according to the cause of the accumulation of mucus or the pharyngeal irritation. When the mucous membrane of the nasal passage is at fault, as in hypertrophies, etc., there are many methods for its reduction—viz.: electric cautery, cutting, removal with snare, and various caustics. Of the latter, chronic and monochloracetic acid are the most useful, as physicians with ordinary experience and care can use them. Monochloracetic acid seems preferable, as it can be applied in the mild cases to the surface of the membrane, and does not make a deep sear and soon heals. When the mucous membrane is very much hypertrophied, monochloracetic acid is also the most useful, as by submucous injection sufficient tissue can be destroyed to make the reduction permanent.

If deviated septum, spur, or any form of growth obstructs the nasal passages, only operative measures can give relief. Enlarged tonsils and hypertrophied tissue at the base of the tongue must also be treated; the latter, either by the galvano-cautery or the instrument I have suggested for this purpose.

It is impossible to lay down a strict rule for the treatment of the different forms of chronic pharyngitis, but the following has given me good results. Every night spray the nose and throat, and inhale while spraying with—

R Acid. carbolic..... gr. ij ;
Sodii biborat..... gr. vj ;
Aque..... ad ℥ ij. M.

After the parts have been well cleansed with this solution, I spray them with—

℞ Liq. hydrastis..... 3 ij;
Benzoinol.....ad 3 ij. M.

The following morning use spray No. 1 before breakfast and No. 2 after breakfast. Every sixth or seventh day I direct the patient to paint the post-pharyngeal wall with—

℞ Iodine.....gr. v;
Pot. iod.....gr. x;
Glycerin.....ad 3 j. M.

This can easily be done with a long brush, the patient standing before a looking-glass.

Internally give one tablet sulphur co., which is composed of—

Sulphur.....gr. v;
Cream tartar.....gr. j;

twice a day after meals. When the follicles in the pharynx are much enlarged, touch them once in two weeks with a cautery point or the nitrate-of-silver stick. Of course, every case treated in this way is not cured, but it gives very satisfactory results. To obtain success the treatment must be carried out for from three to six months. Summer is the most suitable season for treatment. If the patient shaves, I frequently advise him to wear a beard. This may seem trivial, but it is only by the closest attention to details that a successful result can be expected.

When the pharyngeal irritation and accumulation of mucus are due to atrophic rhinitis in the stage when there is a great accumulation of dried mucus, I direct the patient to spray the nasal cavities night and morning with alkaline spray No. 1, and at night introduce, by means of a camel's-hair brush, an ointment of—

℞ Euphen..... 3 ij;
Ung. aquæ rosæ.....ad 3 j.
M. Ft. ung.

During the night the ointment finds its way into the posterior nares and pharynx and keeps the mucus from getting dry and hard, and acts as a stimulant and disinfectant. After

breakfast I direct the patient to blow into each nostril a small quantity of powdered euphorbia.

We next consider the coughs arising from a common cold. Any one can tell when he has taken cold before any symptoms are apparent to others. This knowledge, when possible, should be treated by a good rubbing with a rough towel over the entire body, a saline purge, and as much rest as possible. In a few hours more definite symptoms appear, and the indication will then be to quiet the excitement of the central nervous system, to soothe local congestion and hyperæsthesia of the nasal mucous membrane, and arrest the discharge. There is nothing, in my opinion, which acts so promptly as the tablet triturates recommended by Dr. Lincoln. If used in the proper way, no one can fail to be impressed with their action. They consist of—

℞ Quininæ sulph., } āā gr. $\frac{1}{4}$;
 Camphoræ, }
 Ext. belladon. fl. gr. $\frac{1}{8}$. M.

One of these should be given every fifteen minutes until there is beginning dryness of the mouth and throat, and then one every hour or two, as required. Besides this, I direct the patient to inhale from boiling water—

℞ Mentholi, } āā $\frac{3}{4}$ ss.
 Camphoræ, }

M. Sig. : One teaspoonful to a quart of water.

Also to hold a sponge, wrung out of hot water, over the bridge of the nose. If seen early, four hours of this treatment will positively stop the sneezing and running from the nose; twenty-four hours completes the cure. If rest is not possible, I advise the patient to exercise very little, dress warmer than usual, drink little, avoid change of temperature, and continue the inhalation twice a day.

Should a bronchial irritation appear, I give—

℞ Potassii nitratis 3 ij;
 Ammonii bromid. 3 iiij;
 Syrup. Simplicis $\frac{3}{4}$ j;
 Aquæ ad $\frac{3}{4}$ iiij.

M. Sig. : One teaspoonful every three hours in Vichy.

If the patient is not seen until the rhinitis has been present forty-eight hours, the tablets are not so efficacious, and we have to rely more on the inhalation and ammonium-bromide mixture.

The third variety, or coughs of phthisis, requires different treatment according to the stage of the disease.

The short, dry, useless cough of the initial period of phthisis is not often troublesome enough to require treatment ; when it is, one four-hundredth of a grain of sulphate of atropine, or ten drops of tinctura gelsemii, twice a day, will afford relief, or one two-hundredth of a grain of hyoscyamine is equally efficacious. Later, when there is bronchitis and considerable coughing and expectoration, creasote, taken internally and by inhalation, gives some relief. I have not had the uniform success with creasote which Dr. Beverley Robinson reports from its use. On account of its effect on the stomach, it is impossible, excepting in rare instances, to give the large doses of creasote which some observers recommend. The largest dose I have given was ten minims three times a day.

Dr. William H. Flint's creasote pill is an excellent method of administration. Hot milk, lime water, and whisky, added together, make a good vehicle. No one remedy can be relied upon for these coughs, and the greatest success may be expected from a judicious change from time to time of the remedies. Menthol, given in three-grain doses an hour after meals, is useful when the expectoration is excessive. In the latter stages, when rest is greatly disturbed, opiates are our best remedies. When the cough is due to efforts to empty a filled cavity, it should not be forgotten that the position of the patient will materially assist in doing this, and trials should be made to determine the most favorable position. Change of climate is one of our most certain remedies for the relief of these coughs, and great care must be exercised in determining what climate would be most suitable in each case.

Treatment of Winter Coughs.—The conditions which cause winter coughs are usually well established when the physician is consulted. The first step will be to take an inventory to determine what damage the respiratory tract has sustained, also if there is any emphysema or other lung trouble and the condition of the heart. We also inquire for any hereditary

diathesis. On the result of the examination and inquiries our course of treatment will depend.

Climatic conditions influence these coughs more than anything else, and must always be considered in their treatment. A warm, dry, even temperature, free from high winds—in other words, where there is summer weather the year round—is most favorable for a cure. When this can be obtained without too great a sacrifice, it should always be taken advantage of.

Many persons, from business or other reasons, can not avail themselves of the advantages of change of climate, and we have to do the best we can for these patients at home. They should wear flannel the entire year, thin in summer and thick during the winter. Sponge the chest with cold water morning and evening, and follow it up with dry friction. Thick-soled boots should be worn, and the night air avoided as much as possible. Cold sleeping-rooms and breathing through the mouth must be guarded against; also sudden changes of temperature. Should these precautionary measures prove useless and the sufferer finds he has taken cold, or that the cough is simply returning, we must endeavor to give as much relief as possible. This is best done by daily inhalations of vaporized Dobell's solution, or some other soothing vapor. The whole list of balsams are more or less beneficial, but their effect on the stomach is so disastrous that they can not be taken for any length of time. Each case will require a special selection of drugs. Terpin hydrate and creasote have given me the most satisfaction. The soreness and aching over the trachea and sternum are greatly benefited by—

R. Olei sinapis sem..... ℥ x ;
Spt. vin. rect.....ad ʒ ss.

M. Sig. : Apply with camel's hair brush twice a day.

Attention must be paid to the physical condition, and the organs kept in the best possible health.

Success with these cases depends more on the general management of the patient and persistency in treatment than on internal administration of drugs directed to the cough.

Nervous coughs must be treated according to their kind and cause. The accompanying symptoms and general history will

decide this. When there is a local or reflex cause, the treatment must be directed to allay or remove the irritation. In one case I removed a piece of coal, weighing five grains, which had been imbedded in the external auditory canal against the tympanum for thirteen years. This cured the cough and asthmatical attacks from which the patient had suffered.

Abrasions of the nasal mucous membrane and also pressure in the nose frequently causes reflex coughs. It is usually not difficult to relieve these coughs, if the diagnosis has been correct.

The neurotic cough in girls with chlorosis and boys at the age of puberty is successfully treated with iron and sulphate of magnesia. Judicious bathing, exercise, and friction of the skin must also be employed. Counter-irritation in the ovarian region is sometimes useful, and a sea voyage may be necessary in some cases.

In adults, when the cough is due to a general neurasthenic condition, many plans may be tried without success. Tonics, combined with prolonged rest or a sea voyage, is the most satisfactory. Oxalate of cerium, if kept up for a long time, has relieved some cases. When the cough seems to have become a habit, there is little use of trying to stop it.

The coughs resulting from excessive indulgence in food and alcoholic beverages are benefited by a moderation of the cause.

Aperients and plenty of alkalies and alkaline drinks must be given. Spraying the throat twice a day with—

℞ Acid carbolic..... gr. j ;
 Liq. hydrastis..... 3 j ;
 Benzoinol.....ad $\frac{3}{4}$ j. M.—

allays the irritation. If there is any rheumatic or gouty history, it must receive attention in the treatment.

22 EAST FORTY-SECOND STREET.

